NASA Procedural Requirements

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COMPLIANCE IS MANDATORY

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Subject: NASA Radio Frequency (RF) Spectrum Management Manual

Responsible Office: Space Operations Mission Directorate

Chapter 2:NASA Spectrum Management Program Roles and Responsibilities

2.1 Agency-Level Responsibilities

2.1.1 The AA for OSF is designated as the NASA Spectrum Manager and is responsible for ensuring compliance with pertinent international and national rules and regulations of all NASA RF spectrum users. The AA for OSF nominates the Chairperson of the United States Study Group 7 (ITU-R) under the U.S. National Committee, appoints the Agency IRAC representative, and designates NASA representatives to official spectrum management forums, both national and international.

2.1.2 The AA for OSF has delegated authority for the overall planning, policy and administration of the NASA Spectrum Management Program to the Agency Spectrum Policy and Planning Director within the OSF. The Agency Spectrum Policy and Planning Director also chairs and coordinates the Frequency Management Liaison Group (FMLG), which consists of representatives from the NASA Enterprises. The FMLG (see Appendix D) identifies new spectrum requirements needed to fulfill the missions of the Enterprises in a timely manner so that new spectrum allocations may be acquired.

2.1.3 The Glenn Research Center (GRC) has been designated the Lead Center for the Spectrum Management Program, and the Center Director for GRC has been assigned all programmatic implementation responsibilities for the program. The GRC Center Director has delegated responsibility for execution of the Spectrum Management Program implementation responsibilities to the Agency Spectrum Program Manager.

2.1.4 Specifically, the Agency Spectrum Policy and Planning Director establishes the policies, and the Agency Spectrum Program Manager implements the necessary procedures to:

a. Obtain adequate spectrum to support Agency programs.

b. Ensure Agency compliance with national and international rules and regulations.

c. Ensure timely processing of spectrum allocations and frequency assignment requests.

d. Ensure timely dissemination of technical and regulatory changes to the Center Spectrum Managers and the JPL Spectrum Manager.

e. Provide the means for NASA Mission Program Managers to obtain guidance on spectrum matters so that spectrum dependent devices are coordinated at the conceptual stage.

f. Ensure identification and mitigation of any RFI, which might be caused or suffered by Agency operational programs.

g. Provide planning and implementation of actions required to obtain new allocations or enhanced radio regulations through national and international organizations.

h. Provide spectrum planning and support to NASA's technology transfer mission.

i. Advocate rules and rule changes that support the lowest life-cycle cost technical solutions to NASA programs for meeting their communications needs.

2.1.5 The Agency Spectrum Program Manager, with advice and counsel of the Agency Spectrum Policy and Planning Director (NASA HQ/OSF), will provide civil servant staff for assisting the NASA Spectrum Manager in representing the Agency in national and international regulatory fora. Participation in these fora is required, or mandated, to advance and defend Agency spectrum allocation and regulatory needs in addition to securing all requisite license operating authority for flight and administrative programs. These fora include nationally, the NTIA IRAC and its subcommittees, and relevant entities established by NASA, the FCC, the NTIA and the U.S. Department of State to deal with national and international regulatory proceedings, and the ITU and its relevant sectors, study groups, and working parties.

2.1.6 Where appropriate, the Agency Spectrum Program Manager is supported in carrying out these responsibilities by the electromagnetic spectrum engineering services contract. Funding for this contract is provided to GRC through the Space Operations Management Office (SOMO). Additionally, the Agency Spectrum Program Manager will draw upon support from the NASA Centers when specific, specialized expertise is required.

2.1.7 The structure of the NASA Spectrum Management Program is shown in Figure 2-1. NASA and its relationship to the national spectrum management structure are presented in Figure 2-2.

2.1.8 Contact information regarding Agencywide spectrum management personnel is available at http://nasa-spectrum.grc.nasa.gov, a Web site which is maintained by the Spectrum Management Office, Code 6140, at GRC.

2.2 NASA Enterprises and Other Headquarters Offices' Responsibilities

2.2.1 NASA Enterprise and other Headquarters Offices are responsible for coordinating spectrum requirements with the Agency Spectrum Program Manager. The OSF has a unique role within the Agency that is authorized under the Communications Satellite Act of 1962, as amended. This role is to provide technical advocacy to U.S. industry in the research and development of advanced technology applied to commercial communications satellites. Additionally, at times within this program, there may be the requirement to transfer, to entities of U.S. industry, existing communications technology. To ensure adequate spectrum support for these programs, the Agency Spectrum Management Program must provide adequate coordination and representation to the FCC.

2.2.2 For future Agency missions, it is the responsibility of each NASA Enterprise, through the FMLG, to provide the latest conceptual spectrum requirements (communications, remote sensing, and any others) to the Agency Spectrum Program Manager with respect to programs and future mission concepts over which they may have cognizance.

Figure 2-1 NASA Spectrum Management Program

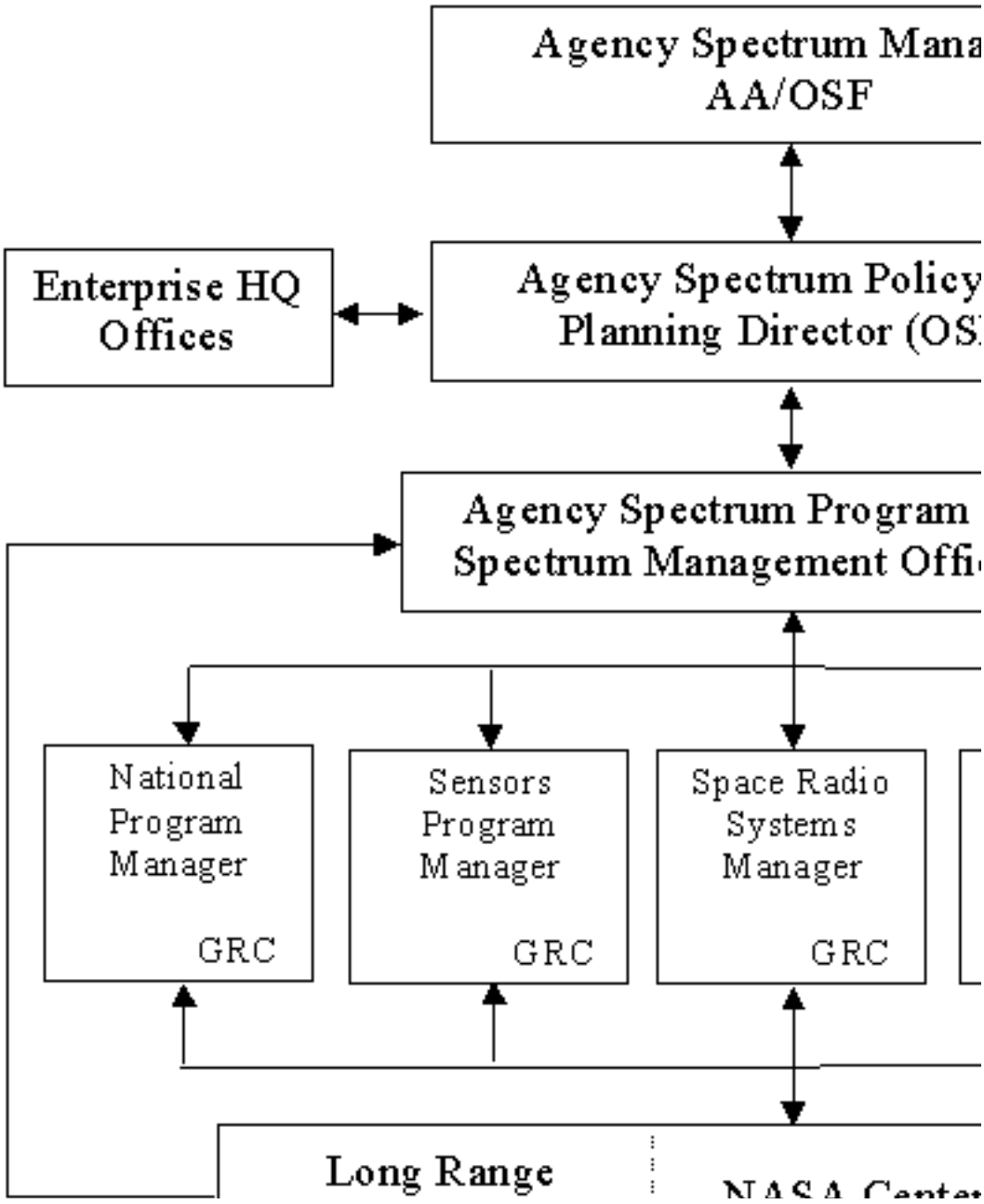
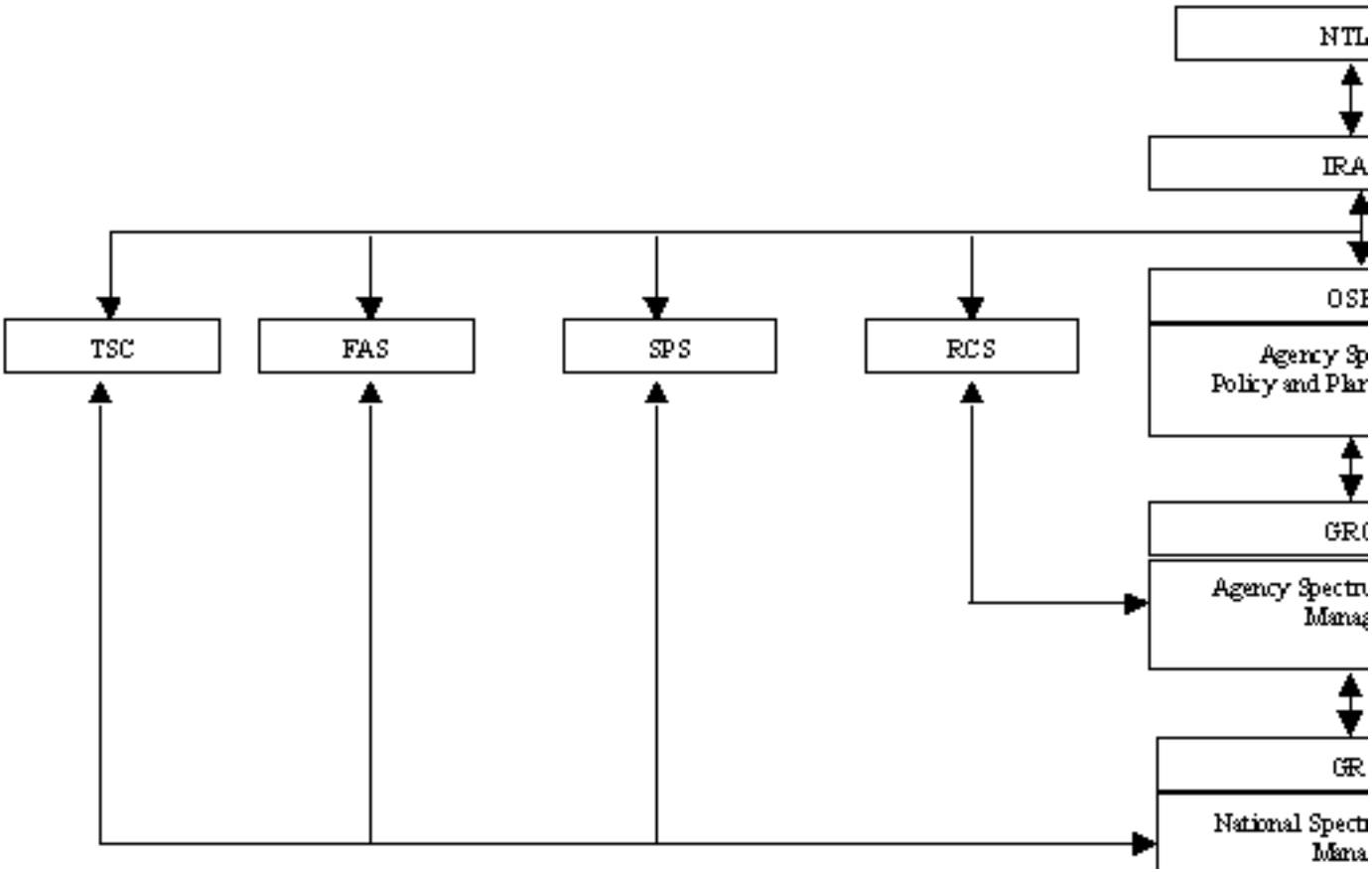


Figure 2-2 NASA/National Spectrum Management Structure



2.3 NASA Centers Responsibilities

2.3.1 Each Center Director is responsible for implementing the Agency spectrum policies and applicable procedures through the publication of Center Management Instructions and adherence to this NPG, and providing resources in support of the Center spectrum management function. Each Center Director will designate a qualified Center Spectrum Manager and a qualified alternate Center Spectrum Manager. The JPL[1], although not a Center, also provides a qualified JPL Spectrum Manager[2] and a qualified alternate JPL Spectrum Manager.

2.3.2 Each Center Spectrum Manager, JPL Spectrum Manager, and their alternates have the following responsibilities at their Center:

a. Coordinate RF spectrum requirements for the site including the licensing of all transmitters (whether for active remote sensing or communications use, and whether spaceborne or otherwise) and the registering of all radiometers or receivers (whether for passive sensing or communications use, and whether spaceborne or otherwise.

b. Maintain accurate records[3] of all frequency assignments in use at or by the Center and JPL

c. Maintain the electromagnetic integrity of the site and its flight missions through proper selection of RF equipment and electromagnetic compatibility (EMC) testing.

d. Ensure day-to-day interference-free operations at the site and by its flight missions

e. Identify communication and other RF spectrum requirements such as active and passive remote sensing requirements, of future missions proposed by the site, and report as early as possible to the Agency Spectrum Program Manager at GRC for inclusion in NASA long-range spectrum forecasts.

f. Prepare technical analyses required to support spectrum management submittals for site projects.

g. Participate in local, national, and international spectrum management coordination groups, as appropriate, and to provide representation and cognizance of the site's project requirements.

h. Coordinate the development and maintenance of Center/JPL instructions for spectrum management with the National Spectrum Program Manager to ensure Agencywide program consistency.

i. Serve as the representative for the Agency Spectrum Program Manager to the NASA programs/projects at their Centers and JPL.

j. Ensure that RF and electromagnetic field emissions conform to the latest requirements of ANSI/IEEE c95.1, Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields 3 kHz to 300 GHz and the ICNIRP Electromagnetic Field Standard, 1 Hz to 300 GHz.

k. Each Center Spectrum Manager has the responsibility to ensure coordination of RF spectrum requirements with the NASA Center Safety and Mission Assurance Office. All RF spectrum requirements will be coordinated with the Center Occupational Health Office. Based on the particular Center mission responsibilities, RF emissions shall be coordinated with other operations such as range safety, flight operations, operation safety, explosive safety, and propellant handlers.

l. Each Center Spectrum Manager and the JPL Spectrum Manager shall be included in their Center procurement process for all RF equipment in order that the above outlined responsibilities may be properly discharged.

m. The National Spectrum Program Manager chairs the NASA Spectrum Managers Group (NSMG) meeting, which meets at least annually to review issues pertinent to all Centers (see Appendix E).

[1] JPL is an operating division of the California Institute of Technology (Caltech) and a Federally Funded Research and Development Center under Caltech's contract with NASA, Contract NAS7-1407 . Under terms of this NASA prime contract, JPL performs a number of communication functions that support various projects and other functions carried out by JPL, including operational management of the Deep Space Network. This support requires access to and use of the RF spectrum.

[2] To ensure proper and adequate RF spectrum availability, the JPL Spectrum Manager interfaces with the Agency Spectrum Program Manager. Also, as necessary, the JPL Spectrum Manager interfaces with the NASA Spectrum Policy and Planning Director and in accordance with procedures outlined in this NPG to obtain the necessary spectrum for JPL requirements and to maintain JPL's RF spectrum utilization in accordance with NASA and NTIA policies and regulations.

[3]The guidelines in NPG 1441.1, NASA Records Retention Schedules, should be followed to maintain and safeguard these records. Records such as documents and reports can only be disposed of based on the retention periods in NPG 1441.1. If an item is not described in NPG 1441.1, an entry needs to be developed and added to the NPG. In this instance, contact your Center Records Manager for the procedures.

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